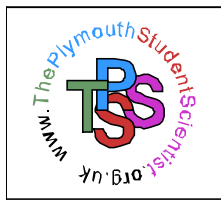


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## Organisational Commitment: Buffer of Work Stress? Relationship to Health, Gender and Age

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### Abstract

Work stress has been linked to negative health outcomes; however, evidence has shown that organisational commitment can act as a buffer to work stress. This is known as the buffering hypothesis of commitment. It was hypothesised that affective commitment would buffer negative effects of specific work stressors and reduce ill health. A convenience sample of 52 urban bus drivers (44 male and 8 female) completed the ASSET questionnaire (an organisational stress screening tool). Limited evidence to support the buffering hypothesis was found, although high levels of commitment were associated with low levels of psychological ill health. Suggestive gender differences were established, yet there was no effect of age. The results display clear trends and novel defined opportunities for stress interventions.

### **Ethical Statement**

The current research has conformed to each clause of the University of Plymouth's Principles for the Research involving Human Participants. Informed consent was obtained through a brief which was given to each participant. This provided a concise outline of the study, the procedural order and reminded participants that they had the right to withdraw at any point throughout the study. Participants showed that they had consented to partake in the study by completing a questionnaire and handing it back, simply doing this shows agreeableness and authorised permission for the results to be used in the final analysis. This procedure additionally ensured the complete anonymity of the results and persons taking part.

Openness and honesty were achieved through informing the participants of the outline of the study as part of the brief. It was within the rights of participants to ask questions throughout the research procedure and it was my responsibility to answer these to the best of my knowledge to ensure participants were not misled. Participants additionally had access to the final report.

It was my responsibility to ensure that participants were entirely aware of the fact that it was within their rights to withdraw from the study at any time or point, irrespective of induction or commencing of procedures. Furthermore, throughout the research experience, or in the de – brief stage, individuals could still choose to withdraw. They therefore had the right to require that their own data and any other recordings of it, be destroyed. If this situation had arisen individual data sets would be identified with a number. Each questionnaire was numbered which matched a

corresponding number stated on the de – brief given to individual participants, this number could be recalled if they wished to withdraw their data.

The study was questionnaire-based, therefore there were no potential risks greater than those in real life and potential harm to participants was minimal. Participants were asked if they felt any procedural aspects of the study would influence any medical conditions which they had, harm or offend them in any way – if this was the case, then appropriate action was taken. Individuals were also provided with the author's contact details in case of any stress or harm, or if further questions occurred to them. It was the author's responsibility to correct any negative consequences resulting from the research.

Every participant was provided with a de – brief that provided any remaining information concerning the nature of the research and thanked them for their time. It was at this stage that the individual's experience of the investigation was discussed so that any unanticipated negative outcomes could be rectified and any questions answered.

Participants who partook had the right to expect that all of the data that they contributed remained entirely confidential and if published would only be displayed within the pool – it would not be individually identifiable. To ensure strict confidential practice, caution was taken when discussing research with colleagues, the whereabouts of the data and the analysis documentation.

The Stage Coach Exeter was used to recruit suitable participants. Their rights were respected and any queries they had were dealt with in the correct manner. The Company was informed that it was entirely within its right to withdraw all participants from the study at any point and to request a copy of the final report.

All data were collected, presented and analysed solely by the author without assistance from others, and no data were shared.

## **Introduction**

The labour market of today is rapidly changing and as a consequence the concept of work - related stress/occupational stress is becoming a more dominant, controversial and publicised issue within psychology.

Occupational stress is a major concern for both employees and the company/organisation as evidence shows that prevalence rates are extremely high. The 2006/07 survey of Self-reported Work-related Illness (SWI06/07) indicated that approximately 530,000 individuals in Britain believed that they were experiencing work stress at such a level that was causing them to be ill. Furthermore, the 2007 Psychosocial Working Conditions (PWC) survey indicated that around 13.60% of all working individuals thought their job was either very or extremely stressful. (Health & Safety Executive, 2007). Furthermore, evidence has been published that indicates 29.00% of people believe their job activity has an influence on their health, (Paoli, 1997). As work stress is such a concern, it is not surprising that related expenditures are vast - it has been estimated that approximately 10.00% of the United Kingdom's Gross National Product is lost through work – related stress, in terms of sickness absence, high turnover, increased medical expenses and loss of production, (Cartwright & Cooper, 1996).

There has been much debate over defining “stress” and as to date there is no universal term, however, Cooper (1996) proposed a meaning that is widely used to date – stress, according to Cooper (1996) is any force that pushes a psychological or physical factor beyond its normal range of stability, as a consequence this shift will produce a strain within the individual, resulting in the individual becoming stressed.

Being in a state of stress has always been strongly linked to negative health outcomes and this claim has now gained widespread acceptance. It has been deemed a very dynamic process with various sources of stress (or work stressors) being exposed to the individual and then these stressors producing symptoms of stress, not only on an individual level but furthermore for the organisation. The various work stressors will be discussed in more depth at a later stage. If these symptoms persist and there is prolonged exposure to stressful stimuli, disease or ill health is a potential consequence, (Cooper & Payne, 1988).

Ill health can affect individuals both physically and psychologically. Physical health effects can be in the form of physical distresses, of which common occurrences include headaches and nausea. There can additionally be impairments in the immune system and changes in hormone levels, however, a physical health outcome that is receiving much attention to date is that of psychosomatic disorders and in particular coronary heart disease or cardiovascular disease (CHD), (Chmiel, 2000). Sacker, Bartley, Frith, Fitzpatrick and Marmot (2001) investigated 4,350 English men and found that those who reported high strain/stress consistently indicated poorer health on all the measures compared to men with low strain/stress. CHD was furthermore examined and it was evidenced that job strain/stress has an aetiological significance for not only CHD, but many other heart diseases including angina and myocardial infarction. Aboa – Eboele et al., (2007) conducted a further analysis considering recurrent incidences of CHD. It was concluded that prolonged job strain and occupational stress would increase the risk of recurrent CHD after a period of 2.2 years of returning to work.

Work stress can also influence health on a psychological level in terms of

mental implications. A 2-year cohort study was conducted to determine whether perceived job stress affected mental health in occupational settings. It was found that the 2-year risk for developing mental ill health in relation to perceived work stressors was 52.10% for the non – stress group and 62.53% for the stressed group. This indicates that stressed employees are at greater risk of developing mental ill health. More specifically, poor relationships with superiors were found to be the stressor with the most negative effects for the stressed group, with a risk value of developing psychological ill health of 70.00% in 2 years. (Mino, Shigemi, Tsuda, Yasuda & Bebbington, 1999).

Referring back to Cooper's (1996) stress definition the factors that may exceed beyond their range of stability are more commonly referred as work stressors. Cooper and Payne, (1988) identified five major categories of work stress or possible work stressors and these are common to all jobs and remain accepted to date. It does need to be noted that these factors vary to the degree in which they relate to stress in each job.

The first of these categories is known as factors that are intrinsic to the job; these include shift work, poor working conditions, work overload, long hours, danger/risk and new technology. Evidence has shown that shift work and irregular working hours (before 6am and after 10pm) can have a significant impact on the employee's cognitive performance and potentially their health, (Ansiau, Wild, Niezborala, Rouch & Marquie, 2008). The role of the individual within the organisation can potentially be a source of stress in terms of role ambiguity, role conflict, personality variables and level of responsibility – if an individual is unclear of their role and expectations of them are in conflict, then they are perceived to be more

prone to stress. To support this view Pearson (2008) found that role overload leading to role ambiguity and conflict led to health problems and was the strongest predictor of psychological ill health. Relationships at work with colleagues, superiors and subordinates are also crucial if stress is to be kept to a minimum and there is a wide spectrum of research addressing issues of managing the boss and the identification of different manager prototypes, (Porter & Baker, 2005). Career development hosts a large number of probable stressors to include issues concerning job security, job performance, retirement and pension schemes. Ferrie, Shipley, Marmot, Stansfeld and Smith (1995) revealed that job insecurity is detrimental for health. A further study investigating managers and professionals has found that job insecurity relates to higher levels of both physical and mental health outcomes (depression and anxiety) and when paired with job strain (high demand and low control) the odds are much higher, (Strazdins, Souza, Lim, Broom & Rodgers, 2004). Gaunt and Benjamin (2007) have more recently conducted research that examined any gender differences in job insecurity - it was found that men experience greater job insecurity than women and are therefore more at risk to health problems. The organisational structure and climate of the company what's more can have an impact on the employee more specifically in relation to social communications and consultations, sense of belonging and opportunity chances.

Work stress has additionally been researched in association with organisational commitment. During the past two decades the concept of organisational commitment has emerged and has become dominant within work attitude and behaviour research, (Allen & Meyer, 1990). Broadly speaking, the concept can be defined as the psychological attachment of an employee to their



particular organisation. More specifically, modern theoretical assumptions share the view that affective commitment is the more dominant and underlying factor within the construct. This form of commitment refers to the involvement in, identification with and general emotional attachment to the organisation, (Schmidt, 2007).

Research has revealed that two theoretical perspectives have emerged that relate to commitment, and the relationship between work – related stress and health outcomes. The level of commitment of an individual is a predominant feature and this moderating effect of commitment is portrayed differently within the two perspectives, (Schmidt, 2007). According to the first perspective proposed by Mathieu and Zajac (1990) individuals with high levels of commitment experience the adverse effects of stress more than individuals with low levels of commitment. This theory states that the high involvement and investment that the employee has towards the organisation causes them to be more vulnerable to the exposure of high work stressors.

There has been an alternative hypothesis of commitment proposed known as the “buffering hypothesis of organisational commitment”. This theory states that organisational commitment acts as a buffer or shield to work stress and therefore results in lowered negative health outcomes. This perspective very much has its roots within the notion of affective commitment as previously mentioned. The theory proposes that affective commitment acts as a buffer due to the bond that the individual has towards the organisation – this bond induces stability of the employee, a sense of security and a belonging to the organisation which increases the resistance that any individual has towards work stressors, (Schmidt, 2007). Suggestions of this have been around for many years as in the past organisational

commitment was termed as a protective resource, (Kobasa, 1982).

A study that investigated air traffic controllers took blood samples every 20 minutes, for 5 hours, on 3 or more days over a 3-year period. The study was noted due to its comprehensiveness in operationalising objective work demands, physiological indicators of strain and changes in physical and mental health of the employees, (Rose et al., 1982). Employees who were high cortisol responders reported to be less ill, were more satisfied with their job and were portrayed by their colleagues to be highly competent. It was concluded that the high level of cortisol response correlated with engagement and challenges at work – this relates highly to affective commitment as it is probable that the increased level cortisol responders have a high level of commitment towards the organisation and as a result are less prone to work stressors, (Rose, 1987). However, it does need to be noted that only male employees took part in this study, causing difficulties when generalising across genders.

A more recent study provided strong evidence in favour of the buffering hypothesis of organisational commitment. Schmidt (2007) aimed to test the competing buffer hypothesis and found convincing evidence in support. The study took the form of a questionnaire and was administered to a total of 506 municipal administration staff. Work stress was one of the main predictor variables measured through combining quantitative and qualitative items. For the measurement of organisational commitment (a further main predictor variable) an 8 – item Affective Commitment Scale (ACS) was adapted, originally developed and proposed by Allen and Meyer (1990). This scale measures an individual's involvement and affective attachment towards an organisation and is highly important due to the modern

theoretical assumption that affective commitment is the more dominant and underlying factor within the construct of organisational commitment. This particular study additionally extended the potential outcomes of strain that may have had an influence on the moderating effects of commitment, to be more precise job satisfaction and burnout dimensions (emotional exhaustion and depersonalisation) were included as outcomes variables. Questionnaire analysis revealed that the effects of high stress on depersonalisation and emotional exhaustion were reduced with increasing affective commitment to the organisation. Furthermore, in some instances the influences of high stress on burnout measures was eliminated with the highest levels of affective commitment. This study provides strong supporting evidence for the buffering hypothesis. The buffering hypothesis of organisational commitment therefore proposes that instead of high commitment reflecting a state of distress, it acts as a buffer to work stressors and in some cases can produce eustress and eliminate stress outcomes.

The issue of gender within this domain of stress and commitment has been briefly touched upon and evidence has been found to suggest that women in general are more vulnerable to stressors (Roxburgh, 1996). Tytherleigh, Jacobs, Webb, Ricketts and Cooper (2007) recently researched gender in relation to health and stress at work and found evidence in support of Roxburgh (1996). The ASSET (Cartwright & Cooper, 2002) was used in this study – a shortened organisational stress evaluation tool which examines the relationship between eight work stressors, organisational commitment and subsequently measures both physical and psychological health. It was additionally found in this study that although the vulnerability was considered to be different in males and females there was no

differential exposure differences. It was concluded that men are more vulnerable to the negative consequences of work stressors that are concerned with pay and benefits, whilst on the other hand females are more vulnerable to the negative effects and outcomes of health. This finding then led to the reporting of a higher level of ill health in women due to stress even when intervening factors and differences in age, job exposure and total sources of stress levels were controlled. Commitment was furthermore measured and similar levels were found in both males and females, however, due to the knowledge that women are more vulnerable to the negative outcomes of health and suffer more ill health than males it may be that the buffering hypothesis of commitment is more effective for males.

Age was a supplementary factor corresponding to stress and commitment that Tytherleigh et al., (2007) investigated. Increased age was shown to decrease the negative physical effects of stress which is consistent with research established by Jex (1998) who suggested that age could potentially be a stress moderator. Further support for this view has been found and states that older workers tend to perceive lower job demands than younger workers which suggests that their stress levels are lower, (Pelfrene et al., 2001). As far as commitment is concerned it has been evidenced that there is a positive correlation between age and commitment – commitment towards the job increases with age, (Nogueras, 2006). In relation to the buffering hypothesis this would indicate that there is a greater effect of buffering with increasing age.

An explicit occupation with claims to suggest that it is stressful and requires commitment is that of bus driving, especially within an urban area. The bus is one of the most popular modes of public transport worldwide and in the UK today (2007)

there is an estimated 126,400 bus/coach drivers with a expanse of 81,600 vehicles of which travel a total of 4,082 million kilometres every year, (Department of Transport, 2007). This occupation is vast and consequently high stress levels are not desirable for the individual, the bus company or government. The physical and psychological health of any bus driver is critical in their driving performance and any impairment can have detrimental consequences not only for the driver but also for the potentially large number of passengers being transported. Occupational stressors have been considered an important etiological factor in health problems among urban bus drivers. (Tse, Flin & Mearns, 2006).

A bus driver well – being review of 50 years of research (Tse et al. 2006) revealed that the lifestyle of a bus driver both at home and work has implications for their physical and psychological health and ill health can result from direct links of the job. More specifically physical health is affected in many ways and as discussed earlier through cardiovascular disease (CHD). Rosengren, Anderson and Wilhelmsen (1991) carried out a longitudinal study with the follow up extending through a mean of 11.8 years. A total of 103 bus and tram drivers were compared with that of 6,596 men in other occupation groups and incidence rates of CHD were examined and collaborated. An 18.40% incidence rate was found for bus/tram drivers compared to 6.40% among the other men in the study, indicating that there are direct links from driving that increases the risk of physical health effects. This evidence is considered strong as socio – economic status was controlled for and is usually seen as a risk factor in CHD aetiology. Psychological health is additionally influenced and there have been investigations into neurotransmitter levels in bus drivers and it has been found that high stress and strain on the job results in an

increased level of adrenaline and nor adrenaline of which could lead to mental ill health, (Carrère, Evans, Palsane & Rivas, 1991). There are ever increasing threats for urban bus drivers including increased road traffic, violent passengers and a tighter running schedule imposed by commercial companies, all of which may increase the stress threshold placed upon bus drivers, (Tse et al. 2006).

### **The Current Study**

The purpose of the present study is to broaden the database concerning affective commitment acting as a buffer to work stress and more specifically in relation to different work stressors and their influence on health. Previous research has implied that the lifestyle of a bus driver is stressful and has direct links to their physical and psychological health, (Carrère et al., 1991; Rosengren et al., 2001; Tse et al., 2006). Based on this research bus drivers will be recruited as participants and furthermore the ASSET will be used as a measure of stress, commitment and health (Tytherleigh et al., 2007), along with the 8 – item Affective Commitment Scale proposed by Allen and Meyer (1990) and used more recently by Schmidt (2007). The factor of gender has received research where gender trends have been observed, (Roxburgh, 1996; Tytherleigh et al., 2007) and age has been evidenced to be a manipulating factor, (Jex, 1998; Nogueras, 2006; Pelfrene et al., 2001; Tytherleigh et al., 2007). Due to this existing empirical evidence a number of hypotheses have been derived on commitment, work stress, health, gender and age.

*Hypothesis 1:* There will be a significant difference in reported stress levels between employees who report high and low levels of affective commitment.

*Hypothesis 2:* A significant difference will be found between work stressors and health, in that higher levels of work stress will elevate both physical and psychological health.

*Hypothesis 3:* A significant difference will be found between the buffering hypothesis of commitment, work stressors and gender.

*Hypothesis 4:* A significant difference will be found between the buffering hypothesis of commitment, work stressors and age.

## **Method**

### *Participants*

Data was collected from employed bus drivers belonging to the bus organisation of Stagecoach in the United Kingdom. A convenience sample of 52 participants completed the questionnaire (100% response rate) that included the scales described below. Females comprised of the 15% of the sample with 85% being males. 15% of participants were up to the age 25 years, 23% were between 26 and 35 years, 33% of participants were aged between 36 and 45 years, 15% were between the years of 46 to 55 and the remaining 14% were 56 years and over. All of the participants (100%) worked on a full – time basis and were British white.

### *Materials*

An Organisational Stress Screening Tool, The ASSET (Cartwright & Cooper, 2002) was used. The questionnaire comprised of 4 individual sub – questionnaires each with a number of items. The ASSET combined both the sources and effects of organisational stress. The first section was titled '*Perceptions of your job*' and

required participants to answer 37 items on eight subscales that may have been sources of stress – work relationships, overload, job security, work – life balance, control, resources and communication and pay and benefits. ‘*Attitudes towards your organisation*’ was the second questionnaire and comprised of a total of nine items on two subscales. This aimed to measure organisational commitment and did so on two levels - commitment of the organisation to the employee and commitment of the employee to the organisation. A high score in both scales indicated increased commitment. Both ‘*Perceptions of your job*’ and ‘*Attitudes towards your organisation*’ were measured on a six-point response range (“strongly disagree” to “strongly agree”). ‘*Your Health*’ was the third questionnaire measured with 19 items on two subscales – psychological health and physical health. These items were scored from 1 to 4, 1 being never experienced the ill – health symptom or change of behaviour in the last three months and 4 being often experienced the ill – health symptom or change of behaviour in the last three months. The final questionnaire was adapted from the original format of the ASSET. This questionnaire measured organisational commitment and was taken from Schmidt (2007) (originally proposed by Allen and Meyer (1990)). This 8 – item affective commitment scale reflected the affective attachment to and involvement in the organisation. Answers were on a seven – point response range (“strongly disagree” to “strongly agree”). ‘*Supplementary Information*’ was additionally collected concerning biographical and demographic information (gender, age, salary and long – term illnesses).



### *Procedure*

The study took a between – subjects approach and a questionnaire design. The dependent variables were the ASSET and the 8 – item affective commitment scale. The independent variables included the work stress of which was measured on 8 levels (the individual work stressors), health, measured on two levels (physical and psychological), and commitment, measured on three levels, (affective commitment, perceived commitment to organisation and perceived commitment from the organisation). Ethical implications were put into place to ensure avoidance of harm to participants, deception and to ensure confidentiality and openness and honesty. A total of 52 questionnaires were distributed to employees by the experimenter in the staff canteen during normal working hours on a weekday. They were asked to return the questionnaire prior to leaving the canteen. 100% of questionnaires were completed and returned. Accompanying each questionnaire was a brief explaining the general purpose of the study and the reassurance of confidentiality. Each participant was provided with an envelope to seal and return the questionnaire to the experimenter. Once returned the participant was given a debrief corresponding with the participant number stated on each questionnaire. The debrief explained any remaining information concerning the nature of the experiment, thanked them for their time and explained that if they wished, they were able to withdraw their data using their participation number. Participation in the study was entirely voluntary. Raw data was scored to create new variables. A decision was made that the level of commitment used in analysis would be affective commitment due to its perceived dominance and considered importance, (Allen & Meyer, 1990; Schmidt, 2007).

Results were then statistically analysed through a one – factor analysis of variance (ANOVA) (between – subjects) and a two – factor analysis of variance (ANOVA) (between – subjects). Where appropriate post – hoc analyses were also carried out. The accepted level of significance for all analyses performed was  $p \leq .05$ .

## **Results**

The current study aimed to test the buffering hypothesis of commitment in relation to specific work stressors and both psychological and physical health. It was predicted that there would be a significant difference in reported stress levels between employees who predicted high and low levels of affective commitment, with interacting and influencing factors of gender and age. Work stress was additionally hypothesised to have a detrimental effect on both psychological and physical health of the employee.

Table 1 shows the means and standard deviations for each stressor, levels of commitment and health components with regard to males and females. It can be seen that all stressors cause somewhat alike levels of stress (when consideration of the number of items which measured each stressor is taken and the scoring). However, stress within “work – life balance” is higher for both males and females in relation to the remaining stressors, as is “control” and “your job”. It is also evident that males have near twice as much stress and problems with “pay and benefits” compared to females. When reviewing the standard deviation values for the stressors all female values are lower than the male values indicating less variation around the mean for females. In terms of commitment (when item number

**Table 1.** *Male and female mean and standard deviation values for specific stressors, levels of commitment and health components*

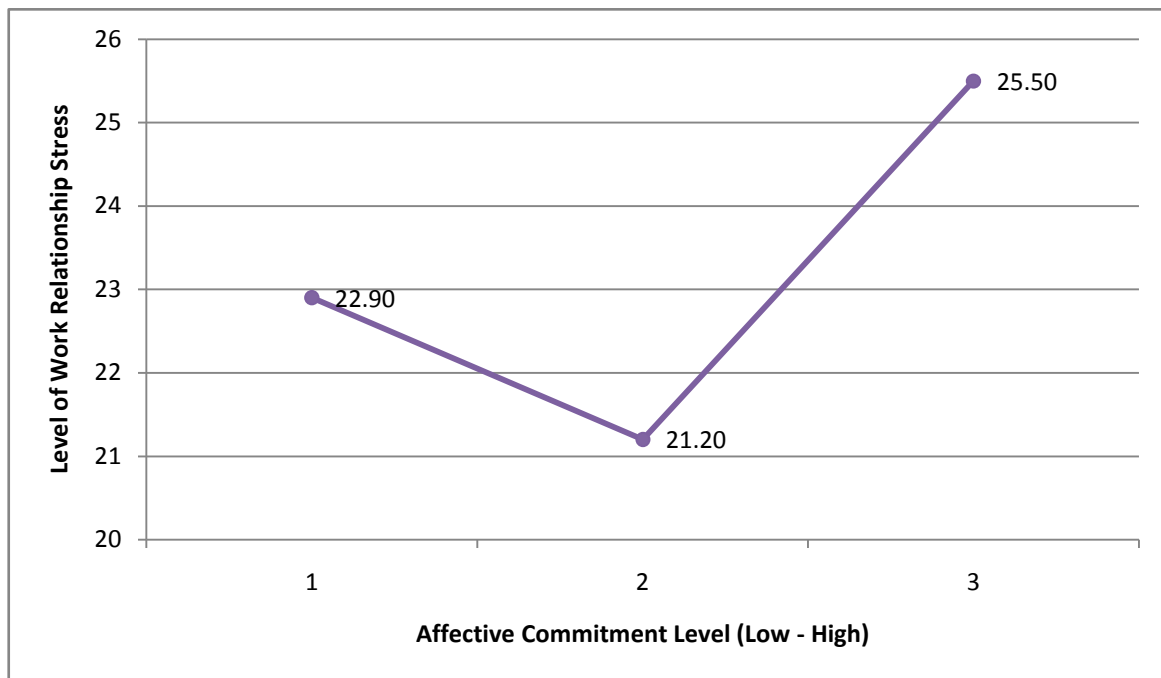
<i>N = 52</i>		<i>Males</i>		<i>Females</i>	
<i>Variable</i>	<i>No. of items measured</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Mean</i>	<i>Standard deviation</i>
<i>Work relationships</i>	8	22.72	8.43	21.62	3.37
<i>Your job</i>	8	31.45	5.60	32.00	5.12
<i>Overload</i>	4	12.43	4.04	10.75	3.05
<i>Control</i>	4	16.34	4.30	16.37	4.20
<i>Job security</i>	4	12.51	4.36	9.00	1.77
<i>Resources and Communication</i>	4	13.97	4.08	15.00	3.38
<i>Work – life balance</i>	4	16.57	4.21	13.75	3.10
<i>Pay and benefits</i>	1	3.70	1.73	2.12	0.99
<i>Affective commitment</i>	8	31.00	8.33	33.75	3.49
<i>Commitment to the organisation</i>	2	12.04	3.51	11.25	3.19
<i>Commitment from the organisation</i>	5	21.27	6.60	18.87	4.99
<i>Psychological health</i>	11	20.15	8.06	20.00	5.37
<i>Physical health</i>	6	12.39	4.55	12.75	5.44

is taken into consideration once again) commitment to the organisation is considered higher than commitment from the organisation. It is evident that there are very alike overall health scores for males and females and in terms of both psychological and physical health. However, males have greater variation for psychological health.

Statistical one – factor analyses of variance (ANOVA) (between subjects) were conducted on the results to test for mean differences, along with two – factor analyses of variance (ANOVA) (between subjects) to compare the factor mean (the “main effects), but also to investigate the interaction between the factors.

In relation to the first hypothesis of whether or not stress levels would be different for employees reporting high and low levels of commitment, one - factor ANOVAs were carried out on each individual stressor and affective commitment levels. The Levenes Test of Equality of Error Variances was calculated prior to each one - factor ANOVA and was found to be not significant in each case,  $p > .0.5$ , therefore we can assume Homogeneity of Variance and continue with each ANOVA.

A one - factor ANOVA showed that the effect of work relationships was not significant,  $F(2.48) = 1.30$ ,  $p = 0.28$ ; however, study of the means indicated a trend. From Figure 1 it can be seen that employees reporting high levels of affective commitment subsequently report higher levels of stress relating to work relationships indicating no effect of buffering.

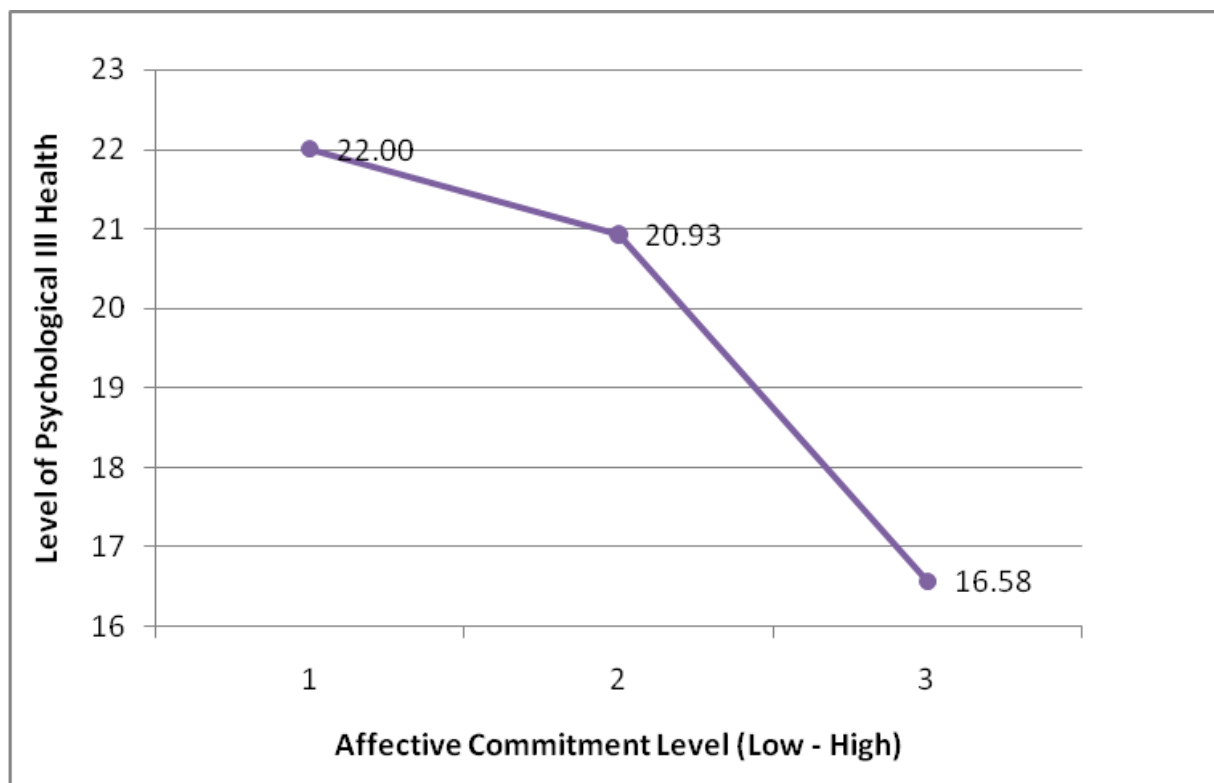


**Figure 1.** Mean values of reported work relationship stress for employees with low, medium and high affective commitment towards the organisation.

A one - factor ANOVA found the effect of control was not significant,  $F(2,49) = 0.46$ ,  $p = 0.63$ , along with your job,  $F(2,49) = 0.14$ ,  $p = 0.87$ , overload,  $F(2,49) = 1.06$ ,  $p = 0.35$ , job security,  $F(2,48) = 0.01$ ,  $p = 0.99$ , resources and communication,  $F(2,49) = 1.21$ ,  $p = 0.31$ , work – life balance,  $F(2,47) = 0.13$ ,  $p = 0.88$  and pay and benefits,  $F(2, 49) = 1.32$ ,  $p = 0.28$  .

One - factor ANOVAs were conducted for type of health and affective commitment to test hypothesis 2 - higher levels of work stress will elevate both physical and psychological health.

A one factor ANOVA showed that the effect of psychological health was not significant,  $F(2,49) = 1.80$ ,  $p = 0.18$ , however, the means indicated a clear trend.



**Figure 2.** Mean values of reported level of psychological ill health for employees with low, medium and high affective commitment towards the organisation.

From Figure 2 it can be seen that employees who reported high levels of commitment additionally reported lower levels of psychological ill health – indicating a buffering effect of commitment.

This trend of affective commitment and psychological health was further investigated in terms of gender. A two – factor analysis of variance (ANOVA) (between subjects) found the effect of gender to be not significant,  $F(1,47) = 0.30$ ,  $p = 0.59$  however, inspection of the male only means indicated that the above result was male dominated. A Least Significant Difference (LSD) follow – up was performed to indicate where the differences occur . Post hoc criterion for significance was found to be not significant however indicated that there is a very clear trend between level of affective commitment and level of psychological health. The trend states that males who report high levels of commitment subsequently report low

levels of psychological ill health. Males reporting high levels of affective commitment had a mean score of 15.44 relating to psychological ill health, whereas, males reporting low levels of affective commitment had a mean score of 22.00 of psychological ill health.

A further one - factor ANOVA showed that the effect of physical health was not significant,  $F(2,48) = 0.53$ ,  $p = 0.59$ .

To investigate gender a one – factor ANOVA was conducted on gender and affective commitment, this was found to be not significant  $F(1,50) = 2.57$ ,  $p = 0.12$ . Inspection of the means however, did reveal a trend. The mean affective commitment score for males was 1.92 compared to 2.38 for females – this would suggest that females overall have higher levels of affective commitment. Following this statistical two - factor ANOVAs were performed to test for any main effects of gender and affective commitment in relation to the specific stressors measured.

A two – factor ANOVA found a main effect of gender in relation to job security,  $F(1,46) = 4.84$ ,  $p = 0.03$ , but no effect was found for affective commitment in relation to job security,  $F(1,46) = 0.17$ ,  $p = 0.85$ . The interaction was additionally not significant,  $F(1,46) = 0.07$ ,  $p = 0.79$ . Further inspection of the means indicated that the main effect of gender showed that females overall, feel less secure in their jobs compared to males – females report lower levels of job security.

The stressor of pay and benefits was investigated in relation to gender and affective commitment through a two – factor ANOVA, a main effect of gender was found,  $F(1,47) = 5.3$ ,  $p = 0.03$ , however, no main effect of affective commitment was found,  $F(2,47) = 0.86$ ,  $p = 0.43$ . The interaction was also found to be not significant,  $F(1,47) = 0.00$ ,  $p = 0.97$ . Investigations of the means indicated that the gender effect

showed a clear trend that males overall, despite commitment level, were more dissatisfied with pay and benefits (mean = 3.70) compared to females (mean = 2.13).

The stressor relating to your job was investigated through a two – factor ANOVA and no main effect of gender, ( $F(1,47) = 0.55, p = 0.46$ ), and affective commitment ( $F(2,47) = 1.01, p = 0.37$ ) was found. The interaction was additionally found to be not significant to an alpha level of .05,  $F(1,47) = 2.84, p = 0.09$ . However, if the alpha level was extended to .10, this interaction between your job stressor, gender and affective commitment would be considered significant. Further inspection of the means indicated a trend – females who reported high levels of affective commitment also reported higher levels of your job stress (mean = 36.33) compared to highly committed males (mean = 30.78).

A two – factor ANOVA showed that the effect of gender for work relationship stress was not significant,  $F(1,46) = 0.42, p = 0.52$ , and there was no main effect of affective commitment for work relationships,  $F(2,46) = 0.51, p = 0.60$ . The interaction between the factors also proved to be not significant,  $F(1,46) = 0.41, p = 0.52$ .

A two – factor ANOVA on control found no main effect of gender  $F(1,47) = 0.00, p = 1.00$ , no main effect of affective commitment,  $F(2,47) = 0.49, p = 0.62$ , and a non significant interaction,  $F(1,47) = 0.38, p = 0.54$ .

There was no main effect of gender for the work – life balance stressor when a two – factor ANOVA was performed,  $F(1,45) = 2.05, p = 0.16$ , similarly for affective commitment,  $F(2,45) = 0.30, p = 0.74$  and the interaction was found to be not significant,  $F(1,45) = 0.52, p = 0.47$ .

Additionally, a two – factor ANOVA found gender in relation to overload to be not significant,  $F(1,47) = 0.77, p = 0.39$ , as was affective commitment,  $F(2,47) =$



1.25,  $p = 0.30$  and the interaction,  $F(1,47) = 6.99$ ,  $p = 0.51$ .

This conclusion was also true for the stressor of resources and communication – no main effect was found for gender,  $F(1,47) = 0.46$ ,  $p = 0.50$ , affective commitment,  $F(2,47) = 1.27$ ,  $p = 0.29$  and the interaction proved to be not significant,  $F(1,47) = 0.43$ ,  $p = 0.51$ .

To explore any influences of age and affective commitment a one – factor ANOVA was performed and was found to be not significant,  $F(4,47) = 0.45$ ,  $p = 0.77$ . Two – factor analyses of variance (ANOVA) (between subjects) were then performed to test for any main effect of age and affective commitment in relation to the specific stressors measured.

There was no main effect of age found for the control stressor,  $F(4,37) = 1.13$ ,  $p = 0.36$ , nor for affective commitment in terms of control,  $F(2,37) = 2.07$ ,  $p = 0.14$ , however, the interaction proved to be significant,  $F(8,37) = 2.62$ ,  $p = 0.02$ . A Scheffe follow – up was performed to indicate where the differences occur in the conditions, however, was found to be not significant.

A two – factor ANOVA was performed on your job stressor, no main effect of age was found,  $F(4,37) = 1.23$ ,  $p = 0.32$ , no main effect of affective commitment was found,  $F(2,37) = 1.24$ ,  $p = 0.30$  and there was no interaction effect,  $F(8,37) = 0.90$ ,  $p = 0.53$ .

A two – factor ANOVA was performed on work relationships – no main effect of age was found  $F(4,36) = 0.44$ ,  $p = 0.78$ , no main effect of affective commitment was found,  $F(2,36) = 0.92$ ,  $p = 0.41$  and the interaction proved to be not significant,  $F(8,37) = 1.48$ ,  $p = 0.20$ .

This outcome was similarly the case for the overload stressor, the two – factor

ANOVA revealed no main effect of age,  $F(4,37) = 0.22$ ,  $p = 0.92$ , no main effect of affective commitment,  $F(2,37) = 1.20$ ,  $p = 0.31$  and a not significant interaction,  $F(8,37) = 1.25$ ,  $p = 0.30$ .

A two – factor ANOVA on job security proved that there was no main effect of age,  $F(4,36) = 1.79$ ,  $p = 0.15$ , no main effect of affective commitment,  $F(2,36) = 0.78$ ,  $p = 0.47$ , and no interaction effect,  $F(8,36) = 1.08$ ,  $p = 0.40$ .

This was also true for the stressor of resources and communication, no main effect of age was found,  $F(4,37) = 0.32$ ,  $p = 0.86$ , there was no main effect of affective commitment,  $F(2,37) = 0.33$ ,  $p = 0.72$  and no interaction effect,  $F(8,37) = 0.75$ ,  $p = 0.65$ .

The potential stressor of work – life balance was investigated through a two – factor ANOVA and no main effect of age was found,  $F(4,35) = 0.85$ ,  $p = 0.50$ , no effect of affective commitment was found,  $F(2,35) = 0.43$ ,  $p = 0.65$  and there was no interaction effect,  $F(8,35) = 0.94$ ,  $p = 0.50$ .

A two – factor ANOVA revealed no main effect of age in relation to the stressor of pay and benefits,  $F(4,37) = 1.18$ ,  $p = 0.33$ , no main effect of affective commitment,  $F(2,37) = 1.66$ ,  $p = 0.20$  and no interaction effect,  $F(8,37) = 0.66$ ,  $p = 0.72$ .

**Table 2.** *Frequency and percentage values of supplementary information for both males and females*

N = 52	Males		Females	
Variable	Frequency	Percentage	Frequency	Percentage
<i>Age (years)</i>				
Up to 25	7.00	16.00	1.00	12.50
26 – 35	8.00	18.00	4.00	50.00
36 – 45	16.00	36.00	1.00	12.50
46 – 55	7.00	16.00	1.00	12.50
56 or more	6.00	14.00	1.00	12.50
<i>Long – term illness/ health problem</i>				
Yes	2.00	5.00	0.00	0.00
No	42.00	95.00	8.00	100.00
<i>Years at institution</i>				
Up to 2	20.00	46.00	3.00	38.00
3 – 5	12.00	27.00	4.00	50.00
6 or more	12.00	27.00	1.00	12.00
<i>Years in current job</i>				
Up to 2	22.00	50.00	3.00	38.00
3 – 5	12.00	27.00	4.00	50.00
6 or more	10.00	23.00	1.00	12.00
<i>No. of promotions</i>				
0	33.00	75.00	8.00	100.00
1	4.00	9.00	0.00	0.00
2	3.00	7.00	0.00	0.00
3 or more	4.00	9.00	0.00	0.00
<i>Estimated hours worked per week</i>				
21 - 30	1.00	2.00	0.00	0.00
31 – 40	1.00	2.00	0.00	0.00
41 – 50	34.00	78.00	8.00	100.00
51 - 60	8.00	18.00	0.00	0.00
<i>Salary per annum</i>				
£10,001 - £20,999	39.00	89.00	8.00	100.00
£21,000 - £30,999	5.00	11.00	0.00	0.00

From Table 2 it can be seen that there is no indication that certain age groups undertake bus driving – it is apparent that people across all ages are bus driving as an occupation. Long – term illness was found only in a small minority of the participants and years at the institution and years in the job varied. The majority of participants stated that they had never received a promotion and it is clear to see that the common number of hours worked per week is 41 – 50.

## **Discussion**

The aim of the present study was to broaden the existing database of research concerning the buffering hypothesis of commitment and how this in turn relates to specific work stressors and health. Subsequent factors investigated included gender and age. In the literature, a supporting view of the buffering hypothesis has been proposed (Kobasa, 1982; Rose, 1987; Schmidt, 2007) along with a contrasting view, (Mathieu & Zajac, 1990). This existing literature led to the hypotheses of the current study being developed. The first hypothesis stated that there would be a significant difference in reported stress levels between employees who report high and low levels of affective commitment. There is now a widespread acceptance of the view that work stress has direct links towards both physical and psychological health (Aboa – Eboule et al., 2007; Chmiel, 2000; Mino et al., 1999; Sacker at al., 2001). This formulated the hypothesis which held the view that there would be a significant difference found between work stressors and health – more specifically higher levels of work stress would elevate both physical and psychological health. Differentiating factors of gender and age were also investigated.

Limited evidence was found to support the buffering hypothesis of commitment, yet on the other hand, no concrete evidence was found to disprove the buffering hypothesis of commitment. A clear trend however was found that indicates a potential supportive view of commitment acting as a buffer. The trend states that employees reporting high levels of affective commitment reported lower levels of psychological ill health. In contrast, a trend was observed that implied high levels of commitment were linked with high levels of work relationship stress – conflicting findings. Gender differences were not found to be significant, although, trends revealed that females tend to be more committed overall, feel less secure in their jobs and worry less about pay and benefits compared to males. No effect of age was found.

In relation to the buffering hypothesis of commitment the one – factor ANOVAs conducted on each work stressor and affective commitment were all found to be not significant (see results section). Therefore the results are very inconclusive and support neither the proposal by Mathieu and Zajac (1990) nor the buffering hypothesis of commitment and hypothesis one can be rejected. However, a clear trend was observed which provides partial support for high commitment causing employees to experience the adverse effects of stress more than low committed employees. The mean values indicated that employees reporting high levels of affective commitment subsequently reported high levels of stress relating to work relationships. Review of literature points to possible reasons for this and holds consistent views. Mathieu and Zajac (1990) proposed that highly committed employees are more likely to have higher levels of stress due to non – work conflicts, which in turn could relate to the idea of poor work relationships. Mino et al., (1999)

found that the work stressor associated with the greatest negative effects and therefore the most potential to produce stress was poor relationships with superiors. Commitment levels would need to be investigated within this study; however, it suggests 'work relationships' is a stressor that elicits many conflicts and problems. It has additionally been found that social support at work can have a buffering effect on specific work stressors, (control and performance) and psychological health in terms of depression, (Park, Wilson & Lee, 2004). From this evidence it may be apparent that more highly committed employees who are generally perceived as being more competent are not receiving an adequate amount of social support to buffer the adverse effects of the job and reduce stress levels. Commitment from the organisation was also perceived to be lower than commitment to the organisation, which in the view of social support buffering stress would indicate that the lack of social support or perceived commitment from the organisation is causing greater levels of stress. It may also be true that the management of the employees is being conducted inefficiently as evidence has shown that the supervision of staff and the type of management is crucial if stress is to be kept to a minimum, (Porter & Baker, 2005). At present there is limited research investigating exactly how organisational commitment acts to increase stress so therefore it cannot be concluded that this trend is strong support for the view proposed by Mathieu and Zajac, (1990). Literature has proposed much recent evidence in support of the buffering hypothesis of commitment (Kobasa, 1982; Rose et al., 1982; Rose, 1987; Schmidt, 2007) which again leaves this trend open to doubt.

In relation to hypothesis two (higher levels of work stress will alleviate both physical and psychological health) the study found interesting results. It was

established that higher committed employees (and in the view of the buffering hypothesis the less stressed employees) had lower levels of psychological ill health. In contrast therefore, low committed employees had greater levels of psychological ill health. It was found that affective commitment has a buffering effect on stress in terms of psychological health. It needs to be considered however, that whether or not hypothesis two is accepted depends on which perspective is taken – the buffering hypothesis or the view that high commitment relates to high stress levels. As the results relating to hypothesis one were inconclusive and there is strong recent supporting literature of the buffering hypothesis of commitment, this perspective will be taken and hypothesis two can be accepted.

Further analysis indicated that this trend in affective commitment and level of psychological ill health was predominantly male dominated. This somewhat supports evidence found by Tytherleigh et al., (2007). It was found that females experience greater vulnerability to work stressors and higher levels of psychological ill health, despite similar commitment levels to men – an indication that the buffering hypothesis of commitment is more effective for males. However, although this initially would indicate a gender difference in the buffering hypothesis of commitment, the sample size in relation to gender does need to be questioned. There was a very limited sample of female bus drivers within the organisation used, which consequently led to an uneven ratio of male to female participants. The male group consisted of 44 participants compared to 8 in the female group. It may be possible that a larger sample of female bus drivers would induce the same buffering effect of commitment on psychological health. It may be possible that the results found reflect an ongoing transition and movement of social roles within our society. Women

numbers have significantly increased within the labour force in the past three decades and are still on the increase. The male domination found may be attributable to the limited understanding of the consequences of the profound social change on population health, (Annandale, 1998).

No effect of work stress on physical health was found and this is inconsistent with previous literature that has found positive correlations between level of stress and physical health, namely CHD. Due to the design of prior research it may be of benefit to compare the present results found on bus drivers to subsequent occupations to distinguish any elevated effects of physical health that bus drivers may have. If this is found to be the case, further, more in – depth investigation would be required.

The study aimed to test for any gender differences in the buffering hypothesis of commitment in relation to work stressors. The results indicate a suggestion that females overall may be more affectively committed to their organisation. A possible reason for this female tendency to be more committed could be related to the care and justice orientation proposed by Gilligan, (1977, 1982). Gilligan claimed that females have a more care orientated approach to life and demonstrate responsibility towards real individuals and preserve emotional connectedness. Males in contrast are more justice orientated and see responsibility towards more abstract codes of conduct. Skoe, Cumberland, Eisenberg, Hanson and Perry (2002) conducted evidence which has supported this view. Real – life and mixed dilemmas were presented and participants were asked to respond. As predicted it was found that females scored higher on care reasoning and males scored high on justice reasoning. This theory would explain greater affective commitment in females as it



would seem that more care and affect is used when dealing with problems and challenges at work, resulting in higher affective commitment towards the organisation. In terms of gender the current study also revealed a clear trend in how male and females perceive pay and benefits. It became apparent that males overall, despite commitment level, were more dissatisfied with pay and benefits compared to females. This result supports previous literature conducted by Tytherleigh et al., (2007) who found that males were more vulnerable to the negative effects of pay and benefits. The view that males are more concerned with the financial realm was also found by McDonough and Walters, (2001).

Gender investigation also revealed a trend showing that females were less secure in their job compared to males, however, this is inconsistent with previous literature which states that males experience higher levels of job insecurity, (Gaunt & Benjamin, 2007). This trend seems abnormal when it was potentially found that females are more affectively committed which would induce a sense of job security and stability. Not only is this trend contradictory to previous research the convenience sample included limited number of female participants which leaves the trend questionable.

The study found no effect of age on the buffering hypothesis of commitment and the specific work stressors. Previous literature does not support this claim of no age effect and proposes that there will be a greater effect of buffering with increasing age, (Nogueras, 2006; Pelfrene et al., 2001). A possible reason for this may be the sample size; would using a larger sample induce more effects? Additionally, the suggestions of the previous literature may not generalise to the profession of bus driving. Further research is needed to determine any age effects in bus drivers

relating to the buffering hypothesis of commitment and work stress.

The current study aimed to investigate differences in gender in relation to the buffering hypothesis, health and various specific work stressors. Due to this line of research a major limitation arose. Although there were suggestions of differences between male and females in terms of commitment and its significance to health and work stressors (as previously mentioned), these need to be treated with extreme caution due to the limited sample of females that were recruited. In order to strengthen these suggestions a larger and more equal sample number to that of males would need to be obtained. However, it does need to be noted that the statistical method used (General Linear Modelling) does somewhat take into account sample size when performing an analysis.

The literature does however provide a possible explanation to the limited number of female bus drivers – it may be a consequence of traditionality within the occupation. Bus driving still remains to be a male dominated occupation, which gives rise to a more male suited working environment. Gerdes (1995) found evidence to claim that females exposed to non –traditional roles were more susceptible than men, with the same professional goals, to physical and psychological stressors. A more recent study provided further support for this view of traditionality. Evans and Steptoe (2002) investigated the traditional gender-orientation of occupations with sex of workers. It was evidenced that the reported number of work hassles was greater in females in non – traditional occupations; this was also true for anxiety levels. The greatest sickness absence was in males in non – traditional roles for example nursing. These findings therefore suggest that men and women working in jobs in which they are in a minority and where the culture is dominated by the opposite sex,

may be especially vulnerable to stress-related problems. In relation to the present study this literature gives a possible explanation for the clear trend found, showing that females are less secure in their jobs compared to men. From this it would suggest that female bus drivers are more susceptible to certain work stressors due to their non – traditional role as a bus driver. Aronsson and Rissler (1998) found that psychologically, female bus drivers reported greater strain from negative passenger behaviour and greater negative influence of road traffic, work absence has also been investigated and found to be greater for females, (Griener, Krause, Ragland & Fisher, 1998). However, the conclusion that females are more susceptible to work stressors compared to men, was not found overall in the present study but may be attributed to the small number of female participants - again an indication that bus driving is male dominated. A further study investigating bus drivers with a more equal sample of male and female participants would further enhance whether traditional versus non – traditional roles have an influence on the susceptibility to certain work stressors.

The current study has advantages that have caused the validity and reliability of the results to be high. The data was collected in an applied, real life situation with an up – to – date, ongoing organisation. This has led to the results found having a strong sense of ecological validity. Throughout the study there has been no effect of “role” which may have biased the findings, as all participants who participated were bus drivers. However, for this reason the question arises of whether or not the findings can be generalised to a wider setting and different occupations?

Through application of the ASSET it has been able to measure specific work stressors and health concepts to give a more intricate view of stress within an organisational setting. This is due to the ASSET combining eight sources and four

outcomes of stress and the measuring of both physical and psychological health. The ASSET use in the current study has additionally highlighted the competence of measuring various types of commitment.

Nevertheless, the present study is not without limitations of which a major sample limitation of a small number of females has already been mentioned and discussed. Although the ASSET brings an advantage to the study it also produces a limitation. The ASSET is a self – report method that in any study causes concern. Due to this it may be that the results are contaminated by common method variance or self – report bias. There may additionally be apparent the biasing effect of social desirability. Future research could therefore look at alternative methods with more practical significance and of which do not rely just on self – reporting. Such examples include absenteeism and work performance – these factors can be reported both by the employee and the employer and would generate a higher level of reliability of the results.

Such situational factors within the study were additionally not controlled for which may have biased the results. Such factors include parental and marriage status, stereotyping and social isolation.

As far as the sample is concerned there may be an aspect of willingness acting on the results, as it would seem logical that only bus drivers with high willingness said that they would complete a questionnaire. This raises the issue of personality types and different traits within them. Personality type has been investigated in bus drivers, however, conflicting results have been found and the evidence remains open to doubt. Evans, Palsane and Carrère (1987) found an association between Type A personality and greater levels of organisational stress,

whereas, their later research found no indication of this – no association was found between Type A personality and perceived job stress, (Carrère, Evans, Palsane & Rivas, 1991). Further investigation is warranted to clarify previous contrasting findings.

Certain factors within organisations vary to include work settings, social support and control and as the participants used came from one bus company, differentiating factors may bias the findings. In order to overcome this and in relation to the point earlier mentioned concerning generalisability of results, it would seem sensible that future research should direct towards using a wider range of professions and across a larger number of work settings.

Another avenue for future research would be to investigate how the buffering hypothesis of commitment interacts with stress and consequently health, in order to reduce levels of stress and health. There has been a link to the appraisal process as a potential reason for its effective functioning. Due to the processes of appraisal at work, it has been suggested that highly committed employees experience stress as a less threatening and are able to cope with it much more effectively. It has been proposed that commitment gives employees a sense of stability, security and belonging which aids the individual stress intervention, (Meyer & Herscovitch, 2001).

As far as the practical implication of this study is concerned, suggestions of new opportunities into stress interventions have been evidenced. It would seem apparent that there is the need for a high level of affective commitment in order to reduce effects of psychological ill health. This finding from the present study supports earlier research by Aust, Peter and Siegrist, (1997). A stress management programme based on the effort – award balance model was applied to bus drivers for

a period of 12 weeks. Intervention included management of conflicts with superiors, recommendations for structural changes at work, but most importantly excessive work commitment. After completion, mean level of "need for control," a critical, health adverse style of coping with job demands, was significantly reduced in the intervention group compared to the control group, which suggests a high commitment level reduces the impact of work stress.

There is growing literature on organisational interventions for work – related – stress and continued calls for such interventions to be evaluated. The reality is that organisational life is a complex and dynamic process, therefore such intervention methods need to be maintained and develop alongside organisational life if they are to be beneficial. To enable this, research including the current study is necessary to extend understanding further, (Cox, Karanika, Griffiths & Houdmont, 2007).

In conclusion it would seem that organisational commitment offers a promising avenue to stress interventions within the workplace and merits further research and practice.

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